Wind energy generation in the country

342. SHRI AAS MOHAMMAD†,
SHRI SANJAY DALMIA:

Will the PRIME MINISTER be preced to state:

(a) the quantum of power generated through wind energy annually, State wise;

(b) the total potential of wind energy in the country; State-wise; and

(c) the time by which the full potential is likely to be tapped?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI S. KRISHNA KUMAR): (a) to (c) A Statement is laid on the Table of the House.

Statement

(a) The annual energy generation through windpower projects. State-wise, in the years 1992-93 to 1994-95 is given in the Statement-I. *(See* below).

(b) According to a first order estimate, wind resource potential in India is about 20,000 MW. A Wind Resource Assessment Programme is being undertaken in 25 States/UTs. 80 potential locations which could be considered for wind power projects have so far been identified in the States of Tamil Nadu, Gujarat, Andhra Pradesh, Maharashtra, Karnataka, Kerala and Lakshadweep Islands. It is expected that more potential locations exist in these States as well as. in the other States, particularly in the mountainous and hilly areas, A Precise estimate of the Statewise potential will be possible only after detailed wind data becomes availale for all the States.

(c) The revised goal for wind power generation for the 8th Plan is 500 MW. A capacity of 350 MW has so far been installed. The exploitation of the full potential will depend upon identification of suitable sites and finalisation of private sector projects by the concerned State Electricity Boards/State Governments .

Statement—I

State-wise energy generation through Wind Power Protects

State	Power Generation in Lakhs Kwhr		
	1992-93	1993-94	1994-95
Tamil Nadu	568.73	719.16	1513.74
Gujarat	187.93	215.93	378.33
Andhra Pradesh	0.63	1.62	6.19
Maharashtra	5.19	2.09	11.38
Madhya Pradesh	4.07	3.36	2.50

श्री आस मोहम्मद : सभापति महोदय, माननीय मंत्री जी ने पवन ऊर्जा से विद्युत उत्पादन के बारे में जो उत्तर दिया है, इसमें इन्होंने यह नहीं बताया है कि प्रोडक्शन हो रहा है या नहीं हो रहा है। इन्होंने एक संभावना व्यक्त की है, 20 हजार मैगावाट की। मैं जानना चाहूंगा कि प्रोडक्शन हो रहा है या नहीं हो रहा है ?

दूसरी बात, इन्होंने जो यह स्टेटमेंट दिया है उसमें उन राज्यों में जहां पहले से विद्युत अच्छी पोजीशन में चल रही है जैसे महाराष्ट्र, गुजरात और केरल, उसमें

†The question was actually asked on the floor of the House by Shri Aas Mohammed.

बिहार छूट गया है । मैं जानना चाहूंगा, बिहार में पहाड़ भी है, हवा भी है, तो फिर पवन ऊर्जा बिहार में क्यों नहीं है ? प्रधान मंत्री जी यहां बैठे हुए हैं । बिहार के साथ बहुत सारी बातों में पक्षपात और बेईमानी होती है । प्रधान मंत्री जी बैठे हुए हैं, इसलिए मैं यह जानना चाहूंगा कि बिहारवासियों के साथ प्राकृतिक ऊर्जा के मामले में इस प्रकार की बेईमानी क्यों हो रही है ? इसका नाम इस लिस्ट में क्यों नहीं है, यह मैं जानना चाहता हूं ? सभा-पति महोदय,

जिन्हें प्यास कम उन्हें दम-बदम
जिन्हें प्यास है उन्हें कम से कम,
साकिया तेरे मयकदे का,
ए उसूल है कि मजाक है ।

SHRl S. KRISHNA KUMAR: Sir, the total identified potential for wind energy in the country is 20,000 MW. Through the National Wind Energy Source Assessment Programme, we have already identified sites *in* 80 wind tracts. These are in seven or eight major States of the country.

We have developed about 550 MW already and we are going to achieve 1,000 MW by the end of the Eighth Plan, which is ten times the target of 100 MW originally assigned to us by the Planning Commission in the Eighth Plan.

The major wind-energy-producing regions and the identified potential are as follows: Southern India, consisting of the four States—5,000 MW; Gujarat—5,000 MW; the Northern Indian States, particularly, the Himalayan region—5,000 MW; and the Central Indian region—Madhya Pradesh, Orissa—5,000 MW.

We have given about ten wind monitor ing stations to Bihar, in particular. But the commitment of the Bihar Govern ment and the State Electricity Board has not been exactly encouraging. We have not received any data so far. Sir, there is no question of any neglect. The sources are available in certain States only. Other renewable energy sources are available in other States. We are developing them. It is a continuous process. .....

This is based only on the availability of sources. Along with it, there should be a commitment and administrative efficiency or the part of the concerned State Government. We are giving them all encouragement. In regard to Bihar, we are developing the potential in other areas of renewable energy; for example, small hydro where certain potential is available there.

As regards generation of power, we are producing about 500 million Kwhr. a year from wind energy. It is expanding each year. Each year we are producing four times the energy produced in the previous year. The wind energy programme is being commercialised. We are already the second nation in the world. We will soon overtake the U.S.A. Recently, Sir, the world-wide survey published from New York has determined that India's wind energy programme is the fastest developing programme in the world.

श्री आस मोहम्मद : मैं मंत्री जी से यह भी जानना चाहूंगा कि पवन ऊर्जा द्वारा स्थापित विद्युत थर्मल और हाइड्रो विद्युत से व्यावहारिक और वाणिज्यिक आधार पर मुकाबला कर सकती है या नहीं, यानी वह सस्ती हो सकती है या नहीं ?

SHRI S. KRISHNA KUMAR: Sir, this Ministry, which is directly supervised by the hon. Prime Minister, has, in the last two years, launched 36 programmes covering the entire spectrum of renewable energy technology. Small hydro is one of |hem. We have launched 2,000 small hydro projects in the last year. It is catching on, including Bihar. Small hydro, wind energy co-generation and others are the technologies. Some technologies have already become commercial. Others are yet to become commercial. Small hydro is another programme, separate from wind.

श्री आस मोहम्मद : हम यह जानना चाह रहे थे कि थर्मल और हाइड्रो से जो बिजली पैदा होती है उससे पवन ऊर्जा से जो बिजली पैदा होगी, वह सस्ती होगी या नहीं ?

SHRI DIPANKAR MUKHERJEE: Is wind power cheaper than hydro or thermal power?

SHRIMATI KAMLA SINHA: Whether it is cost-effective.

SHRI S. KRISHNA KUMAR: The generation of energy from wind costs only Rs. 3—3.5 crores per mega wait or Rs. 2.25 per kilowatt hour, which is comparable to the modern thermal power plants and the rate allowed to them by the Gov. ernment of India. Similarly, for small hydro projects, the cost varies from Rs. 3.5 crores to Rs 6 crores, depending on the accessibility of the terrain—whether it is a hill area and so on—but it is definitely competitive in terms of the cost of modern thermal power plants.

श्री नरेश यादव: माननीय सभापति महोदय, माननीय मंत्री जी ने अपने जबाव में ऐसे 80 संभाव्यता वाले स्थानों की तमिलनाडू, गुजरात, आंध्र प्रदेश, महाराष्ट्र, मध्य प्रदेश, कर्नाटक, केरल और लक्षद्वीप में पहचान कराई है जहां इसकी संभाव्यता है। जहां जहां पवन, है, पहाड़ हैं वहां आपने पता किया है। ऐसा लगता है कि बिहार में न प्राकृतिक पवन है और न पहाड़ हैं। भले ही कांग्रेस की हवा बिहार में नहीं हो लेकिन पहाड़ और पवन की कमी नहीं है। दूसरी बात यह कहना चाहता हूं कि खास कर के पहाड़ी की पूर्णता उत्तर पूर्वी राज्यों में है, इसलिए मैं यह जानना चाहता हूं कहां कहां इसकी संभावना है। मैं माननीय मंत्री से स्पेसेफिकली जानना चाहता हूं कि नार्थ ईस्ट जो पहाड़ी का स्टेट कहा जाता है, वहां कहां कहां इसकी संभाव्यता है?

SHRI S. KRISHNA KUMAR: Sir, I have already said that one-fourth of the total potential of 20,000 megawatts is in the northern Himalayan region.

AN HON. MEMBER: Please try to understand his question.

SHRI S. KRISHNA KUMAR: I understand his question. Also in Central India, including Bihar and Orissa, there are another 5,000 megawatts. Unfortunately, a number of wind monitoring stations, wind mapping satations—about 30 which have been sanctioned three years ago, have not been operationalized successfully by the Bihar Government. We are pressing them to utilize them. Sir, I would also like to assure you that we have launched a pro gramme by which the entire 20,000 megawatls of power that is available in the country will be mapped and sites identi fied through satellite imagery and modern ' methods like computer forecasting. Pre viously it used to take three years or the wind regime to be established in an area. Now, due to modern technology, it should ' be possible to establish it in three to six months. So we are going to cover the en tire country in three to four years, and within a decade it should be possible, theoretically at least, to totally harness the wind energy potential of the country. So, the progress of Bihar is dependent on the commitment and the speed with which the State Government can function, we are giving them full support. We can lead the horse to the water, but we cannot make it drink. i

श्री नरेश यादव : मैं पूछ रहा हूं की आपको बिहार क्यों दिखाई नहीं पड़ रहा है है? (व्यवधान)

नार्थ ईस्ट में सात पहाड़ी प्रदेश हैं इस देश के, मैं उनके बारे में पूछ रहा हूं। आप बिहार बिहार कर रहे हैं (व्यवधान)

MR. CHAIRMAN: The Minister has answered your question.

SHRI S. KRISHNA KUMAR: Sir,. I have already answered that.

MR. CHAIRMAN: I pass on to the next question. Question No. 343—Shri Janardan Yadav.

Criteria for admission *to* MBBS course

*343. SHRI JANARDAN YADAV: Will the PRIME MINISTER be pleased to state:

(a) whether there is Central Government's quota of seats for MBBS course in various medical colleges of Bihar and Uttar Pradesh;